

### **Remarks**

Applicant respectfully requests reconsideration of this application. In furtherance of Applicant's earlier election, claims 5-14 and 30-36 have been canceled. Claims 36-41 are pending. Claims 36 and 39 have been amended as explained below. Claims 27 & 28 have been amended to correct a minor informality in the claim language. New claims 42-43 have been added to the application. No claims have been allowed. The "Coping Application" paragraph of specification has also been amended to update the information recited therein. Original claims 1-22 of the patent and previously added claims 23-35 have been cancelled.

### ***Specification Objections***

The abstract of the disclosure was objected to as not sufficiently describing the claimed invention. Accordingly, Applicant has replaced the abstract with a new abstract. Applicant respectfully submits that the new abstract complies with the requirements set forth in MPEP § 608.01(b).

The title of the invention was also objected to as not being indicative of the claimed invention. Applicant has replaced the title with a new title in accordance with the Examiner's helpful suggestion.

The specification was also objected to as failing to provide proper antecedent basis for the subject matter of claim 15. Specifically, the phrase "cutting the substrate, the MR element being exposed on a side surface of the substrate" is considered non-disclosed. Applicant respectfully disagrees.

A method of manufacture according to one embodiment of the present invention is described in the specification with reference to Figures 4 and 5. The description on page 16, lines 2-13, for example, teaches that wafer 20, which contains numerous thin film magnetic head elements, is "cut into individual head blocks 21". This section of the specification further explains that, "The cut surface C

on the bottom side of each of the head blocks 21 in Figure 4 and Figure 5 becomes the surface opposing the magnetic recording media, that is, the ABS." Later on that same page, in lines 17-18, the specification discloses that "mechanical polishing of the ABS is performed using an appropriate polishing device over several processes, to flatten the ABS." On page 20, lines 3-10 (and in multiple other places throughout the specification), the specification teaches, "dry etching is used to remove the degenerated layer produced on the ABS side of the magnetoresistance effect element by the final polishing process of the slider ABS".

Applicant believes that there might be some confusion in the mind of the Examiner over the use of the term "side surface of the substrate". Clearly, the head slider block has multiple sides; for instance, the bottom side surface which becomes the ABS, and the adjoining side surface where the thin film head element is formed. The specification does make clear, however, that the MR element is exposed on the side surface that opposes the magnetic recording media, i.e., the ABS (see e.g., page 4, lines 6-7). Furthermore, it is the ABS side surface that is polished, with the degenerated layer formed on the ABS during polishing being removed by dry etching or ion milling.

For clarification purposes, Applicant has amended independent claim 15 (and dependent claims 16-17) to recite "removing a magnetically degenerated layer from at least a region of the side surface that includes component parts of the thin film magnetic head element", which limitation is supported in the specification at page 6, lines 4-22. Appropriate amendments have also been made to dependent claims 16 & 17.

Accordingly, Applicant respectfully submits that the specification provides proper antecedent basis for the claimed subject matter in compliance with 37 CFR § 1.75(d)(1) and MPEP § 608.01(o). Withdrawal of the objection to the specification is respectfully requested.

***Claim Rejections - 35 U.S.C. § 103(a)***

Claims 15-20, 22-27 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Seagle (US PAT. 5,764,446; "Seagle"). Claim 21 stands rejected as being unpatentable over Seagle in view of Kitao et al. (US PAT. 6,198,600; "Kitao"). Claim 28 stands rejected as being unpatentable over Seagle in view of Mino (US PAT. 6,188,544; "Mino"). Applicant respectfully traverses each of these grounds of rejection.

Seagle discloses a magnetic head structure that includes a MR element, portion of which is exposed along the ABS surface 300 (see Fig. 3). Seagle teaches that a lapping operation is necessary to provide the ABS on the magnetic head, and that such lapping may be performed by any conventional process. (Col. 8, lines 2-12)

The Examiner acknowledges that Seagle fails to teach or disclose a magnetically degenerated layer formed on the side surface. Nonetheless, the Examiner considers that such a layer "can be removed during the lapping process as shown in Fig. 4." Applicant respectfully disagrees.

As explained in the Background section of the specification, it is precisely the mechanical lapping or polishing of the ABS surface that *creates* the magnetically degenerated layer in the first place. Therefore it is a contradiction of the involved physics to suggest that further lapping or polishing could somehow remove this layer simultaneous with its generation. Since conventional lapping operations produce the degenerated layer, further mechanical surfacing of the ABS would only exacerbate the problem. Because Seagle nowhere mentions the formation of a magnetically degenerated layer during a conventional lapping process, and because he certainly does not teach, disclose, or suggest removing a magnetically degenerated layer from at least a region of the side surface that includes a component part of the thin film magnetic head element, Applicant respectfully submits that the invention of

claim 15 (as well as each of the claims depending on claim 15) would not have been obvious to one of ordinary skill in the art at the time it was made in view of Seagle.

With respect to the invention of claims 21 and 28, neither Kitao nor Mino provides any teaching or suggestion of a method of manufacturing a magnetic head that includes removing a magnetically degenerated layer. Consequently, Applicant respectfully submits that the invention of claims 21 and 28 would not have been obvious to one of ordinary skill in the art at the time it was made in view of the cited prior art.

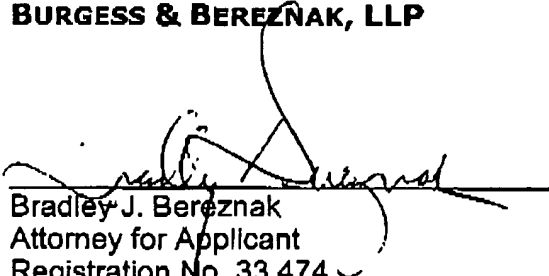
Accordingly, it is respectfully submitted that the rejection of claims 15-29 under 35 U.S.C. § 103(a) be withdrawn.

Accordingly, it is respectfully submitted that all remaining claims are now in condition for allowance.

Please charge any shortages of fees or credit any overcharges of fees to our Deposit Account No. 50-2060.

Respectfully submitted,  
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